UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,923	11/21/2003	Feng-wei Chen Russell	RSW920030185US1	2402

45541 7590 08/08/2007		EXAMINER	
HOFFMAN WARNICK & DALESSANDRO LLC		BELL, CORY C	
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14TH FLOOR	ART UNIT	PAPER NUMBER	
ALBANY, NY 12207	2164		

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/718,923	RUSSELL ET AL.
	Examiner	Art Unit
	Cory C. Bell	2164

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>5/23/2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

SAM RIMELL
PRIMARY EXAMINER

Attachment(s)
1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1. Claims 1-22 have been examined.

Response to Arguments

The rejections under 35 USC 101 and the restriction requirement are withdrawn.

Applicant's arguments with respect to claims 1-13 have been considered but are moot in

view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims1-8 and 10-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US

2003/0212678, known hereafter as Bloom in view the applicant admitted prior art, and US

2004/0083083 known hereafter as Doganaksoy.

2. Claims are rejected under 35 U.S.C. 103(a) as being clearly anticipated by.

2.1. Claim 1 is anticipated as follows:

obtaining a set of goals for the data mining algorithm;(This is taught by Bloom Para 15 and

99-102, In the applicant admitted prior art, para 3 of applicants specification, and

Doganaksoy para 9 teaches obtaining goals but is silent with regard to data mining

algoritms),

the data mining algorithm being configured to solve the set of goals(Bloom and

Doganaksoy do not expressly disclose this limitation; however, it is admitted by the applicant

in para 3 of applicants specification

> user is seeking to accomplish (e.g., classification, fraud detection, etc.). Making such a selection
>
> is relatively straightforward since each data mining algorithm is generally configured to fulfill
>
> specific goals. However, multiple data mining algorithms may be configured to fulfill the same
>
> goals. As a result, it is desired to select the best performing data mining algorithm for the
>
> particular data that is being mined.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the

invention to include this feature, to speed up processing by eliminating the processing of

algorithms not configured to meet the goals.)

assigning a weight to each goal in the set of goals; (Bloom recognizes the use of weights in

paras 102-104) but does not expressly disclose the use of a weight for each goal, this feature

is taught however in Doganaksoy Para 6 "Furthermore, properties having

higher priorities can be given greater weight than properties

having lower priorities when the overall match score of the

experimental run or new material is being calculated.

Embodiments of the systems and methods of this invention can

allow materials to be ranked in descending order according to

their calculated overall match score, so that the material(s)

that best matches the desired properties is readily

identifiable by a user." Thus, it would have been obvious to one of ordinary

skill in the art at the time of the invention to include this feature in order to make the best

matches readily identifiable to the user)

applying the data mining algorithm to a dataset; (Bloom Para 15, the number of correct

positive can only be determined after applying the data mining algorithm to the dataset)

and calculating a performance value for the data mining algorithm based on the set of

weights and a set of results for the applying step. (Bloom Para 15 FOM and Doganaksoy para

6 as shown above) and storing the performance value for use in evaluating a data mining

algorithm(Bloom figure 2)

2.2. Claim 2 is anticipated as follows:

identifying a set of error cases for each goal in the set of goals; (Bloom Para 15, positive and

negative relative accuracies, Doganaksoy Para 10)

and assigning a weight to each error case in the set of error cases. (Bloom Figure 15 shows

that the each error case has a different weighting factor assigned, the positive relative

accuracy weight being $W/(W+1)$ and the negative relative accuracy weight being $1/(W+1)$

Doganaksoy Para 11)

2.3. Claim 3 is anticipated as follows:

obtaining an acceptability for an error case; and calculating the weight based on the

acceptability. (Bloom Para 16, cost is an acceptability using the broadest reasonable

interpretation) (Doganaksoy Para 9)

2.4. Claim 4 is anticipated as follows:

  determining an error rate for each error case based on the set of results; (Para 15 the

relative accuracies are error rates using the broadest reasonable interpretation) and

calculating an error vector for each error case based on the error rate and error weight for

the error case.(Para 15 and Para 95 FOM equation shows the calculation of both error

vectors, it is also noted that the examiner believes that the prior art contains a

typographical error and that (number_of_correct_ positives)/ (number_of_actual_

negatives) should be (number_of_correct_ negatives)/ (number_of_actual_ negatives))

2.5. Claim 5 is anticipated as follows:

the calculating step further includes summing the error vectors for the set of error cases to

obtain the performance value. (Para 15 FOM)

2.6. Claim 6 is anticipated as follows:

  6. The method of claim 1, further comprising comparing the performance value to an

acceptable performance value. (Para 105 shows comparing all of the performance

values, one of which is the acceptable or best performance value)

2.7. Claim 7 is anticipated as follows:

  7. A method of evaluating a set of data mining algorithms, the method comprising:

selecting the set of data mining algorithms; (Paras 7 or 9) the rest of the limitations are

taught as shown in the rejection of claim 1.

2.8. Claim 8 is anticipated as follows:

8. The method of claim 7, wherein the selecting step is based on the set of goals. (Para 8)

2.9. As per claim 10, See Claim 1 rejection and Doganaksoy para 6.

2.10.   Claim 11 is anticipated as follows:

11. The method of claim 7, wherein the assigning step includes: identifying a set of error

cases for each goal; and assigning a weight to each error case in the set of error cases.

(See claim 2 rejection)

2.11.   Claim 12 is anticipated as follows:

12. The method of claim 7, wherein the set of data mining algorithms includes at least one

data mining algorithm having a first set of parameter values and the at least one data mining

algorithm having a second set of parameter values. (Para 6)

2.12.   Claim 13 is anticipated as follows:

13. The method of claim 7, further comprising: selecting a data mining algorithm in the

set of data mining algorithms; and generating a data mining model based on the selected

data mining algorithm. (Para 6)

2.13.   As per claim 14, see claim 1 rejection and para 169.

2.14.   As per claim 15 see claim 7 rejection.

2.15.   As per claim 16 see claim 10 rejection.

2.16.   As per claim 17, this limitation is taught in Bloom Para 162, which teaches output

to a monitor.

2.17.   As per claim 28 this limitation is taught in Bloom para 7.

2.18.   As per claim 19 this limitation is taught in Bloom para 166.

2.19.   As per claim 20 see claim 1 rejection.

2.20.   As per claim 21 see claim 7 rejection.

2.21.   As per claim 22 see claim 10 rejection.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/0212678, known hereafter as Bloom in view the applicant admitted prior art, and US 2004/0083083 known hereafter as Doganaksoy in further view of US 20020147599, known hereafter as Vishnubhotla.

Bloom teaches business taxonomies and problems in paras 4 and 5 however bloom fails to

expressly disclose

selecting a business taxonomy;

selecting a business problem based on the business taxonomy; and

selecting the set of data mining algorithms based on the business problem.

However, These limitations are taught in Vishnubhotla paras 10-14 and thus would have been

obvious to one of ordinary skill in the art at the time of the invention to include this feature to

quickly locate algorithms for solving a problem.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Cory C. Bell whose telephone number is (571) 272 2736. The

examiner can normally be reached on m-f 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Charles Rones can be reached on (571) 272 4085. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SAM RIMELL
PRIMARY EXAMINER